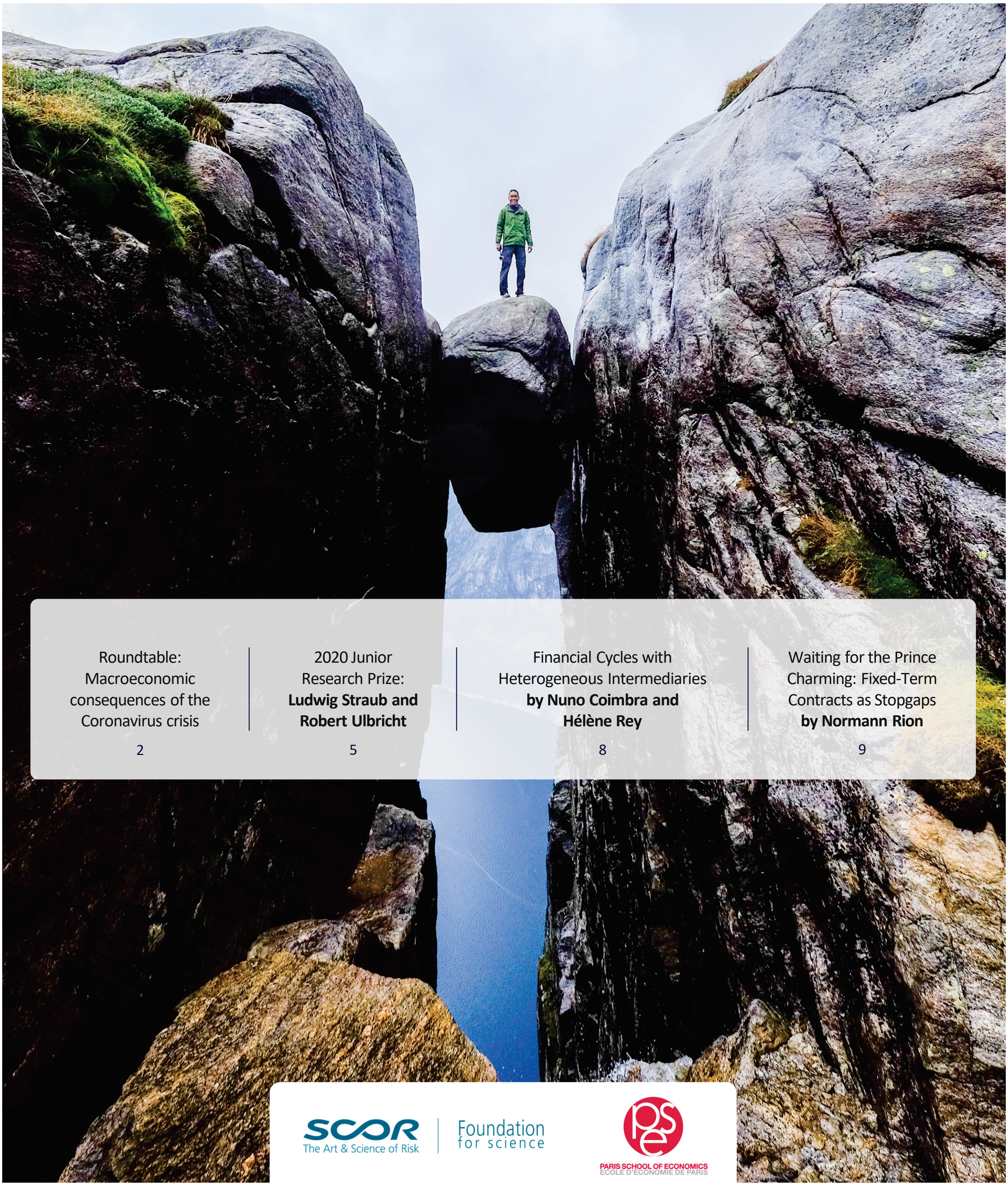
SCOR-PSE CHAIR
NEWSLETTER N°5

In May, the SCOR-PSE Chair organized an online roundtable to discuss the **macroeconomic consequences of the Covid crisis**. Earlier, in April, the SCOR-PSE Chair awarded the **2020 Junior Research Prize** to Ludwig Straub and Robert Ulbricht, for their paper titled "Endogenous Uncertainty and Credit Crunches". This newsletter also presents two research papers of the SCOR-PSE Chair, on financial risk and on risks subsequent to labor market reforms.



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PARIS SCHOOL OF ECONOMICS
ECOLE D'ECONOMIE DE PARIS

Macroeconomic consequences of the Coronavirus crisis

On May 4, 2020, **Jesus Fernández-Villaverde** (University of Pennsylvania), **Benjamin Moll** (London School of Economics), **Facundo Piguillem** (EIEF Rome) and **Denis Kessler** (SCOR) were invited to discuss about macroeconomic consequences of Coronavirus crisis. The panel was moderated by **Gilles Saint-Paul** (PSE, ENS).

THE COVID-19 PANDEMIC HAS PROVOKED AN ECONOMIC CRISIS. SOME PROJECTIONS FOR THE FRENCH ECONOMY ANTICIPATE THAT GDP WILL FALL BY 20% IN 2020. HOW BAD IS THE RECESSION? CAN WE EXPECT A RAPID RECOVERY OR DO WE EXPECT LONG-LASTING NEGATIVE EFFECTS ON OUTPUT AND UNEMPLOYMENT?

The crisis could actually be worse than suggested by these projections, according to **Ben Moll**. Indeed, a back-of-the-envelope computation shows that an annualized growth rate of -20% translates into a growth of rate of -5% a quarter. Given the large reductions in labor supply in some sectors, he believes more realistic estimates could be closer to -15% in a quarter. But as emphasized by **Gilles Saint-Paul and Jesus Fernandez-Villaverde, this relative optimism may stem from accounting conventions** - and in particular how GDP is computed - which may not be really relevant in this context. Indeed, a huge fraction of GDP is incompressible because it is composed of imputed rents and the public sector. The divergence with welfare is striking: schools are closed but statistical agencies around the world still consider that they contribute to GDP.

Jesus Fernandez-Villaverde is however cautiously optimistic about the recovery. Based on the example of post-war growth episodes, he estimates that economies will have recovered by 2022. **This claim was discussed by Facundo Piguillem**, who does not believe in a quick recovery because of the **looming risk of the virus coming back.** Contrary to post-war periods, lifting the lockdown does not mean that the virus is gone: people may still be scared and refrain from going to restaurants, etc. Ultimately, this will depend on whether market economies will adapt in order to keep generating worth, e.g. restaurants doing take-out. Having said that, all panelists agreed on the fact that a lot of uncertainty remained on both the future clinical evolution and political consequences of the crisis.

Denis Kessler concluded by stressing how unique the present shock is. Contrary to the 2008 recession, it is fully exogenous to the economic system but also serial, delocalized and, unlike war shocks, it is invisible and preserves physical capital intact. He shares with Gilles Saint-Paul the idea that this unprecedented shock will also have deep structural consequences. Because of adverse effects on financial markets, protectionism or government intervention, the recovery will most likely be U-shaped rather than V-shaped. Any comeback to normality is unlikely before we find a vaccine or a treatment. Due to non-linearity and hysteresis effects, the economy may even be trending toward a new long-run low per capita GDP, high debt and high tax trajectory.

THE LOCKDOWN IS PUTTING PUBLIC FINANCES UNDER STRAIN. IN ORDER TO AVOID AN ECONOMIC AND SOCIAL CATASTROPHE, GOVERNMENTS INCREASED THEIR SPENDING WHILE THEIR TAX REVENUES FELL, WHICH RESULTED IN A HUGE ACCUMULATION OF DEBT. WHAT ABOUT THE LONG RUN FISCAL SUSTAINABILITY OF SUCH POLICY, ESPECIALLY IN LIGHT OF THE EUROPEAN SOVEREIGN CRISIS? BESIDES, WHAT ROLE FOR MONETARY POLICY? IS DEBT AN ISSUE?

Facundo Piguillem reminds the audience that an optimal tax policy must weigh the trade-off between raising revenues and increasing tax distortions. In the present context of rising sovereign debt and negative labor supply shocks, he supports the idea of **increasing capital taxation while decreasing labor taxation. According to Jesus Fernandez-Villaverde, the inter-generational aspect of the crisis** must not be overlooked: the economic costs will linger on people under 50 - towards which transfers should be oriented. As such, he favors a tax on real-estate Nevertheless, both panelists agree that political constraints will be binding.

Facundo Piguillem does not expect large western countries to default on their debt in the near future. Similarly, **Jesus Fernandez-Villaverde does not think that governments will have difficulty refinancing their debt in the short-run**, because there are not many alternatives on financial markets currently. However, governments may come under increasing pressure when investors will start asking whether these countries are willing to sustain the long-run fiscal policies needed to repay the debt. Finally, **Denis Kessler highlighted that short-sighted governments and countries entered the crisis unprepared and with very limited financial flexibility.** European countries *de facto* entered the crisis with heterogeneous fiscal capacities. As such, the crisis will likely widen the gap between those countries. Under such circumstances, the mutualization of debt will be very difficult and the sustainability of Europe may again be challenged.

Why not use the monetary policy to finance the deficits more, asked Facundo Piguillem? Jesus Fernandez-Villaverde stressed that part of today's constraint comes from the supply: stimulating demand will not boost the economy because the resource constraint is relatively fixed. At the same time, some inflation may help readjust relative prices and ease the burden on the liability side. According to Denis Kessler, unconventional monetary should, at some point in time, reignite inflation after 30 years of Great Moderation. If so, this inflation would wipe out the current excess of debt and impose an implicit redistribution of the debt burden on all economic agents. Relatedly, there is no consensus in Europe

on further uses of monetary policy. **Gilles Saint-Paul** pointed out that the use of **inflationary-prone policy measures is likely to be met with resistance** by countries such as Germany. From his point of view, sharing a common currency is akin to a "tragedy of the common", which is likely to put the European project under additional pressure.

THE LOCKDOWN AIMED AT PROTECTING PUBLIC HEALTH BUT CAME AT IMPORTANT ECONOMIC COSTS. IN LIGHT OF THE RECENT DEATH STATISTICS, DID GOVERNMENTS WEIGH OPTIMALLY THE TRADE-OFF BETWEEN SAVING LIVES AND SAVING THE ECONOMY? HOW ABOUT A LIBERTARIAN, DO-NOTHING POLICY INSTEAD?

Jesus Fernandez-Villaverde believes that state intervention was a bit tougher than would have been optimal but reminded the audience that early indicators were quite alarming. Moreover, he stresses that the measures were taken by public health experts who are not used to thinking in terms of trade-offs. By lack of logistic thinking, they may have overlooked hard constraints, such as food, electricity, etc. This opinion is shared by **Denis Kessler**, who points out, quoting James Tobin, **that in states of emergency, decision-makers often forget about rationality and trade-offs.** As such, governments' decisions to save lives at whatever costs implicitly mean that the price of human life skyrocketed during the crisis.

However, **Facundo Piguillem** suggests, building on his current work on optimal state intervention, that **the measures taken by politicians were actually quite reasonable.** Had they not been concerned about trade-offs, they would have implement Wuhan-style lockdowns. Furthermore, **Ben Moll** contends with the idea that there existed a trade-off in the short-run at all. Using a model of the economy as a laboratory, he found out that do-nothing policies would also have generated a large recession - because people are scared to go out. According to him, the main trade-off is about duration: **a sharp but short-lived recession vs. smoothing out the costs over time.**

Finally, **Ben Moll** claims that do-nothing scenarios are not optimal because of **strong externality effects.** Indeed, people do not sufficiently take into account how much they are going to infect others – which leaves some room for welfare-enhancing state intervention. Yet, Gilles Saint-Paul argues that this argument misses the reality of state intervention.

Governments were unequally good at managing the crisis, e.g. organizing masks production or testing. These wide differences between European countries stem from a series of small, yet tough decisions taken by governments, asserts **Denis Kessler**, who points out the different levels of preparedness as well as the very different ways governments have reacted to this crisis (e.g. the German and Swedish ways vs. the French way). For his part, Jesus Fernandez-Villaverde thinks these trends reflect worrying divergence in "state capabilities" across Europe: more proficient - not larger - states did manage the crisis more successfully.

DUE TO THE CRISIS, A LARGE FRACTION OF ACTIVITIES HAS BEEN TRANSFERRED ONLINE. DOES THE CRISIS ACCELERATE DIGITAL TRANSFORMATION? DO YOU SEE OTHER LONG-TERM STRUCTURAL EFFECTS, E.G. WITH RESPECT TO INCOME INEQUALITY?

All panelists agreed that the crisis will have **deep and long-lasting effects on the use of new technologies.** Ben Moll and Denis Kessler believe that people will be less reluctant to online meetings as an alternative to long-distance travel around the globe. Denis Kessler adds that we may now enter a world of "social distancing". Open spaces could decline in favor of "flex activity". It is also likely that teleworking will become more common. As emphasized by Jesus Fernandez-Villaverde, this represents above all a cultural shift in how these new technologies are viewed. By speeding up digital transformation, the crisis may turn out to have positive long-term consequences, suggests Facundo Piguillem - provided short-term costs eventually disappear.

Nevertheless, Gilles Saint-Paul warns that many sectors could unravel as a result of the digital transformation. Building on the example of the music industry, he stresses that easier access will increase competition at the global level: the number of professors could be divided by 10 while the market share of survivors would increase by as much. However, a number of activities cannot easily be digitalized, argues **Jesus Fernandez-Villaverde**. For example, building professional networks or getting a haircut require in-person interactions. He predicts **large changes in the urban landscape** though: remote work could signify the end of dense cities and big offices.

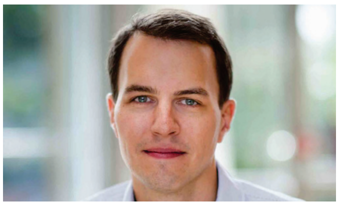
Denis Kessler believes that for business and industry, **this pandemic shock will unquestionably lead to a reorganization of production chains** and, consequently, of **the international division of labor.** Covid-19 has made many companies realize, to their cost, that when certain irreplaceable components are no longer manufactured, because Chinese factories are closed, most or all of their production capacity will come to a standstill. Many companies, particularly manufacturing companies, will therefore re-evaluate the structure, organization and geographic distribution of their supply chains, their production lines, their distribution networks and their inventories.

Finally, **Ben Moll** thinks that **the crisis could have considerable effects on income inequality.** In recent work, he documents that there are stark differences in people's ability to work from home, depending on their occupation. On top of that, he reports evidence that people holding the most economically vulnerable occupations - e.g. restauration or transport - also have the lowest levels of liquid wealth. This means the crisis could have enduring long-term negative consequences through balance sheet effects.

SHORT BIOGRAPHIES

Jesús Fernandez-Villaverde is Professor at the University of Pennsylvania, Research Associate for the National Bureau of Economic Research (NBER) and Penn's Population Studies Center, and a Research Affiliate for the Centre for Economic Policy Research (CEPR). His research agenda is in macroeconomics and econometrics, with a focus on the computation and estimation of dynamic stochastic general equilibrium (DSGE) models.

Denis Kessler is Chairman & Chief Executive Officer at SCOR. He is a graduate of HEC business school (École des Hautes Études Commerciales), holds a PhD in economics and advanced degrees in economics and social sciences, and is a Fellow of the French Institute of Actuaries. He was Chairman of the Fédération Française de l'Assurance (FFA), Senior Executive Vice-President and member of the Executive Committee of the AXA Group and Executive Vice-President of MEDEF (Mouvement des Entreprises de France). He joined SCOR as Chairman and Chief Executive Officer on November 4, 2002. In January 2016, he was elected to join the Academy of Moral and Political Sciences of the Institut de France.



Benjamin Moll is Professor of Economics at the London School of Economics and Political Science (LSE). He is also a Research Associate at the National Bureau of Economic Research (NBER), a Research Fellow for the Centre for Economic Policy Research (CEPR), an Affiliate at the Bureau for Research and Economic Analysis of Development (BREAD) and Researcher at the Research Department of Norway Statistics. His research focuses on cross-country income differences and heterogeneity in macroeconomics. Mr Moll received a bachelor's degree from University College London, UK, and a PhD in economics from the University of Chicago.

Facundo Piguillem is Associate Professor at the Einaudi Institute for Economic and Finance (EIEF) and Research Fellow at the Center for Economic Policy Research (CEPR). He received a bachelor's degree from the Universidad Nacional de Córdoba, a MA from the ILADES-Georgetown University, a PhD in Economics from the University of Minnesota, and since then he has been at EIEF. He is a macroeconomist working on improving government policies and regulations, which touches issues related to political economy and optimal taxation.

Gilles Saint-Paul, the scientific director of the SCOR-PSE Chair, is Professor at the Paris School of Economics and Ecole Normale Supérieure, and a Global University Professor at NYU Abu Dhabi. He is also a research fellow of many think-tanks such as the Centre for Economic Policy Research (CEPR). He is a former member of the Council of Economic Advisors to the Prime Minister of France. He served as consultant for various central banks, ministries, and international institutions. His research spans a variety of macroeconomics topics from labor markets to political economy to bubbles to fiscal policy.

2020 Junior Research Prize: Ludwig Straub and Robert Ulbricht

On April 28, 2020, during an online conference held by the Chair, **Gilles Saint-Paul** (PSE-ENS) and **Philippe Trainar** (SCOR) announced that **Ludwig Straub** (Harvard University) and **Robert Ulbricht** (Boston College) were the 2020 laureates of the SCOR-PSE Junior Research Prize for their outstanding research on "Endogenous Uncertainty and Credit Crunches". We had the opportunity to interview Ludwig and Robert about their award-winning paper and their research path.

Endogenous Uncertainty and Credit Crunches

Straub, Ludwig, Ulbricht, Robert, **Endogenous Uncertainty and Credit Crunches,**
Working Paper, July 2018.

Financial crises often provoke deep and long-lasting recessions, as exemplified by the 2008 subprime crisis. The reasons why financial crises are usually larger and more persistent than other types of crises–like oil or trade shocks–is not fully understood yet. Some economists, including Olivier Blanchard, former IMF's chief economist, point at the role played by uncertainty. **How exactly does uncertainty interact with financial frictions to amplify the initial shock and slow down the subsequent recovery?**

Since the seminal work by Bloom (2009), it is well-known that **uncertainty negatively affects the economy.** Greater uncertainty regarding future business conditions induces firms to delay investments and hiring, thereby delaying the recovery. This is known as the "wait-and-see" effect. Another strand of the literature has analysed the link between uncertainty and recessions the other way around. Its starting point is that economic conditions affects analysts' ability to forecast the future. It aims at understanding why **uncertainty rises during recessions.** The present work borrows from both approaches, in that it considers a two-way causal interaction between uncertainty and economic conditions.

At the heart of the paper lies the idea that **greater uncertainty and bad economic conditions reinforce each other, channelled through financial constraints and learning dynamics**. The mechanism is as follows. An initial tightening of credit constraints restricts firms' access to funding. Some firms exit, which results in an increase in uncertainty as investors cannot learn about the productivity of inactive firms. Increased uncertainty fuels investors' pessimism, which restrict even more firms' access to funding, and further amplify the recession. Taken together, this explains why a temporary financial shock can develop into a large and persistent "funding freeze".

Finally, the authors calibrate their model to the U.S. economy and evaluate the quantitative role played by their mechanism in generating persistent crises. Importantly, they explicitly used micro data on analysts' forecast to pin down the learning parameters of the model. They find that endogenous uncertainty is crucial to explain the persistence of financial crises: the recession generated by a financial shock has a half-life of 5 quarters in the fixed-uncertainty case while it rises to 11 quarters in the endogenous uncertainty case. Overall, **this work highlights the role played by informational frictions,** which has important policy implications: according to the model, direct transfers to firms should be favoured over banks' recapitalization.

> Greater uncertainty and bad economic conditions reinforce each other, channelled through financial constraints and learning dynamics.

Interview: Ludwig Straub and Robert Ulbricht

CAN YOU TELL US A BIT MORE ABOUT THE GENESIS OF THE PAPER? IN PARTICULAR, HOW DID YOU COME UP WITH THE IDEA OF THE PAPER? AND HOW DID YOU START WORKING TOGETHER ON THE PROJECT?

Both: The project started in Munich, where we met each other during graduate school. This paper was our first project together, and we began writing it in 2010/11, after we realized one important fact. Financial crises, like the one we were just going through at the time, not only reduce production and employment, but also information, in that after one or two years with little or limited access to funding, it's really not clear anymore what the current financial and economic situation of a firm is like. Will the firm be able to recover quickly and catch up with unaffected firms? Did the firm have to liquidate capital or assets that may have been important for the recovery? Will customers that were lost due to the adverse financial situation come back after the crisis? Is the firm going to be able to hire back qualified workers, qualified R&D staff, or qualified management it had to let go during the crisis?

Those questions matters because when information is lost, it creates uncertainty and hesitation. In the context of our paper, the uncertainty matters for future access to finance: when banks have too little information, they won't lend. This is how a financial crisis can cause economic damage that far outlives the crisis itself. In other words, when the banks are recapitalized and the financial sector is regaining health, information is still lost. And lost information endogenously prolongs the economic malaise through reduced lending, even when banks are fully recapitalized. This link, between financial crises and endogenous uncertainty, is what drove us to writing this paper.

> "Financial crisis can cause economic damage that far outlives the crisis itself."

WORKING ON RESEARCH IDEAS TAKES TIME, AND THIS PAPER IS NO EXCEPTION. YOU'VE TOLD US THAT YOU'RE CURRENTLY WORKING ON A REVISION FOR THE REVIEW OF ECONOMIC STUDIES, IN WHICH YOU ARE EXPLORING NEW APPLICATIONS OF YOUR MECHANISM. COULD YOU TELL US MORE ABOUT IT? MORE GENERALLY, HOW HAS THE PAPER EVOLVED OVER TIME?

Both: The paper has evolved significantly over time, mostly because we have evolved as researchers. In some sense, its evolution is a nice example of how a single idea can be explored in many different ways. One important extension we are currently exploring for our revision is a more bank lending-based model of the financial market. A tremendously successful and influential empirical literature has documented how lost access to bank loans can really make a significant difference to a firm's health, with large short-run, and importantly, persistent effects on production and employment. What we are currently exploring is an extension of our current setting to one that specifically

captures bank lending, in the sense of debt contracts. In this context, less information and more uncertainty about firms' conditions, precisely leads to less bank lending since lenders care about downside risk in debt repayment.

WE WANT TO UNDERSTAND MORE ABOUT THE CAREER PATH OF SUCCESSFUL YOUNG RESEARCHERS IN ECONOMICS. WHAT WERE YOUR MAIN RESEARCH TOPICS DURING THE PHD? WHAT HAVE YOU BEEN WORKING ON TILL THEN?

Robert: My research was a bit all over the place when I was in graduate school. Besides my work with Ludwig, I wrote papers on contract theory, industrial organization and political economy, reflecting how my research interests shifted over the course of my PhD. When I entered the PhD program in Munich, I was initially drawn to micro theory. But then, after visiting Northwestern during my 4th year and being exposed to its many excellent seminars and grad courses, I realized that what excited me the most were the first-order and real world questions that are routinely asked in macroeconomics. It was there at Northwestern where, while looking for an idea for my job market paper, I realized that the way in which households and firms collect information about various aspects of their economic life, and limitations in their ability to do so, can have important macroeconomic consequences. My work with Ludwig was born from that idea.

More recently, I have explored related ideas in my works with Ryan Chahrour, Isaac Baley and Ana Figueiredo. With Ryan, I am trying to assess the extent to which (a lack of) information can generate waves of optimism and pessimism among households and firms and its relevance for understanding aggregate economic fluctuations. With Ana and Isaac, I am studying how learning about one's own skills matters for career choices, and how mistakes can have long-term consequences for earnings.

Ludwig: Aside from a few outliers (e.g. a micro theory paper) the main topics I explored during my PhD were, broadly speaking, the macroeconomics of debt and inequality. I would count the project with Robert into the former topic. As an example for the latter topic, in my job market paper, I studied the effects of income inequality on natural interest rates, wealth, and wealth inequality. These two topics have stayed with me since then. In my more recent work, I have tried to bring together these two fields, asking questions such as: Is the rise in economic inequality we have seen around the world related to the rise in debt levels? (The answer is yes.) Can we think of debt as a form of financial income inequality, which may exacerbate existing labor income inequality trends? (The answer is also yes.)

WHAT'S YOUR PERSONAL RESEARCH AGENDA? BESIDES THE SUBJECTS ON WHICH YOU ARE WORKING, WHAT THEMES IN MACROECONOMICS DO YOU SEE AS PARTICULARLY PROMISING? THAT IS, IF YOU WERE A YOUNG PHD NOW, WHICH QUESTIONS WOULD YOU LIKE TO TACKLE?

Ludwig: This is clearly a biased response, but I see a lot of excitement and potential in the area of Keynesian heterogeneous-agent macroeconomics. A growing number of economists have started working on this topic (e.g. Axelle has a terrific paper *(1)*, I also worked on it myself) but I think we are only scratching the surface. The reason I think this is very promising, is that it not only allows for macro to make contact with micro data (e.g. data on inequality of income and wealth), but also make contact with classic aggregate macro models, such as the IS-LM model. That's a really unique achievement. Among questions that fascinate me are how shocks propagate in such models, what the proper microfoundations are in these models, and how one can bring those models together with evidence from behavioral economics on actual household decision making.

"I see a lot of [...] potential in the area of Keynesian heterogeneous- agent macroeconomics."

Robert: One area of economics that I am really excited about lately is the interaction between macro and labor economics. On the one hand, one of the very first things that we teach our undergraduates about business cycles is that they have real life consequences for many people, mainly because they create and destroy jobs. On the other hand, it has not been until recently that macroeconomists started incorporating these consequences into their models. I am excited about seeing more research exploring the link between business cycles and job markets, especially when financial markets provide imperfect insurance against earning losses as in the heterogeneous-agent frameworks that Ludwig was mentioning.

"One area of economics that I am really excited about is the interaction between macro and labor economics."

WE SOMETIMES HEAR THAT THE ECONOMICS DISCIPLINE IS SLOW TO ADOPT NEW METHODS AND IDEAS. DO YOU SHARE THIS VIEW, OR DO YOU THINK THE PROFESSION GIVES A FAIR CHANCE TO YOUNG RESEARCHERS?

Ludwig: In my own inexperienced view, economics as a discipline could definitely do better in educating and promoting women and under-represented minorities. This is unfortunately especially true for macro, which is lagging behind other fields in those regards. This is probably the most important 'infairness' in economic research. Regarding new methods and ideas, I can't speak for other economics, but I love any papers with those, however crazy it might seem. I think that's what's driving us forward. Surely not everything that is radical is great, but it holds the promise of a completely new and refreshing perspective or approach.

Robert: I think that's right, we need to do much better as a discipline to improve diversity. In fact, it seems plausible that more diversity will ultimately help widening our perspective and bring in new ideas. When thinking about how to improve diversity, one thing that is important to

keep in mind is how early economics starts lacking behind other fields. In the U.S., white, non-Hispanic male students are about three times as likely to mayor in economics compared to female and underrepresented minority students. This suggests that a really important question that we should ask ourselves is, how we can design undergraduate courses to engage broader audiences?

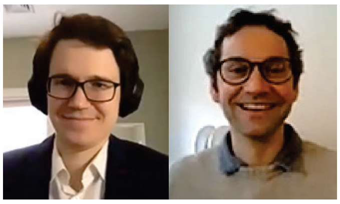
FINALLY, WOULD YOU HAVE A PERSONAL ADVICE TO GIVE TO OUR PHD STUDENTS AT PSE?

Robert: As someone who got his PhD from a European program, I have a good sense about how it can be particularly challenging to prepare for the job market and get exposure when graduating outside the US. In my case, the single most important decision I made was visiting Northwestern for a year (and then again later in the months before my job market). I could not possibly overstate the importance of that visit. How much getting exposed to new ideas and interacting with faculty and students outside my own program helped me prepare for the job market and find a job. I know that not everyone might have the opportunity to arrange a visit to another institution during their PhD, but if this is something that's possible, I absolutely recommend seizing that opportunity.

Ludwig: When I was reading papers as a PhD student, I always had the same feeling, after each one of them. Namely, this is a really great paper, but it already does everything! What am I supposed to work on? Until one day, a close friend shifted my perspective. He asked, whether I understood the world around me, the economy, how agents interact, how prices are determined, how shocks propagate, etc. Of course, my answer was no. So he said: There you have it, go work on understanding it.

(1) Axelle Ferriere, Assistant Professor at PSE, Executive Director of the SCOR-PSE Chair.

SHORT BIOGRAPHIES



Ludwig Straub is an Assistant Professor of Economics at Harvard University. His research focuses on macroeconomics and international economics. Ludwig received his PhD in economics from MIT in 2018 and holds undergraduate and master's degrees in mathematics and physics.

Robert Ulbricht is an Assistant Professor of Economics at Boston College. His research focuses on macroeconomic, search & matching on labor markets and political economy. Robert received a PhD in economics from the University of Munich.

Financial Cycles with Heterogeneous Intermediaries

Coimbra, Nuno, Rey, Hélène, **Financial Cycles with Heterogeneous Intermediaries,** Working Paper, February 2020. ⊕

In the aftermath of the great financial crisis, the question of excessive risk-taking by banks and other financial intermediaries became very important in the minds of policy makers and academics alike. Understanding its causes and origins is essential in designing adequate regulations, since risk is also a fundamental and inherent aspect of the financial sector. One important concern is **understanding whether monetary policy affects risk-taking in the financial sector and also when and how the two are linked.** Did the period of historically low rates before the crisis worsen financial stability ? Is the current low interest rate environment also leading to the build-up of systemic risk ?

This paper looks at how competition between different financial intermediaries can generate a strong connection between policy rates and financial stability. Interest rates affect the composition of the financial sector and how assets are distributed between riskier and less risky financial intermediaries.

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When interest rates become very low, riskier financial intermediaries find it very cheap to grow using leverage and competition can push safer, more conservative ones out of risky financial markets. For example, a cautious bank who wanted to provide mortgages during the boom might find it hard to compete with a neighboring bank which is willing to provide No-Income-No-Job-no-Assets (NINJA) mortgages at very cheap rates. As the name suggests, these were very risky mortgages where the lender did not even require the borrower to provide any information on their job, income or wealth. The easier it is for the riskier bank to find cheap funds to provide these mortgages, the harder it will be for the conservative bank to find clients for his own mortgages. **This means that low interest rate environments can lead to lower financial stability through its effect on the composition of the financial sector.**

A macroeconomic model with heterogeneous financial intermediaries helps clarify the full effect of interest rates on the composition of the financial sector. When interest rates fall, there are two competing effects. The first, already explained above, means that **competition for financial assets drives up asset prices and decreases expected returns**, which can lead to a decrease in the market share of safer banks and financial intermediaries. This leaves the financial sector more concentrated into riskier, highly-levered intermediaries generating low risk-premia and higher systemic risk. The second effect works through the cheaper cost of liabilities. **If the cost of liabilities falls, then more conservative intermediaries might find it now worthwhile to increase their holdings of risky assets** and so the market becomes less concentrated and financial stability is improved. The first effect tends to dominate when interest rates are already low to begin with, while the second one dominates for environments with higher rates. So an expansionary monetary policy worsens financial stability in low interest rate environments, but can actually improve it when rates are high to begin with.

In conclusion, when interest rates are not very low, central banks who need to stimulate the economy do not face any trade-off in terms of financial stability. But when interest rates are already low, further cuts might come at a cost in terms of systemic risk and central banks would do well to recognize this.

Waiting for the Prince Charming: Fixed-Term Contracts as Stopgaps

Rion, Normann, **Waiting for the Prince Charming: Fixed-Term Contracts as Stopgaps,** Working Paper, March 2020.

Over the last decades, fixed-term employment has raised in the European Union. Fixed-term employment provides flexibility to firms in front of workload change, but it is costly to the workers : fixed-term workers face a higher unemployment risk than open-ended workers. Moreover, fixed-term employment also causes an inefficiently high turnover. As a response, **European governments have carried out many reforms of employment protection legislation.** Prominent questions remain, though. In particular, how do fixed-term contracts impact unemployment and welfare ? What are the main risks associated with the implementation of these reforms ?

To tackle these issues, this paper extends the classic model of Mortensen and Pissarides to add open-ended and fixed term contracts. On the job creation side, firms post vacancies while unemployed workers search for a job. Vacancies and unemployed workers meet according to a matching function. New firm-worker matches differ in productivity. They optimally choose between going back to search or starting production under a fixed-term contract or an open-ended contract. On the job destruction side, firms lay off open-ended workers that become unprofitable and pay firing costs. Fixed-term matches only split with an exogenous probability at zero cost.

The future value of a match is uncertain to searching firms and workers. Two polar cases arise. If the initial productivity of the match is low, the firms and the worker go back to search. On the contrary, if the initial productivity is high, the firm and the worker lock up the match to make the most out of it ; the immediate gains overcome the potential firing costs in the future. **The option of offering a fixed-term contract strikes a balance. It provides a production opportunity for the best rejected matches and a quick return to searching for a more productive match.**

The optimal reform consists in a large cut in firing costs and the ban of fixed-term contracts.

Two opposite mechanisms shape the equilibrium. On the one hand, higher firing costs encourage substitution towards fixed-term contracts. On the other hand, higher firing costs discourage the destruction of open-ended matches, which reduces unemployment and job creation of both open-ended and fixed-term contracts. As such, the response of unemployment and welfare is non-monotonous. In a model calibrated to the French labor market, this paper finds that small changes in firing costs cannot jointly enhance employment and welfare. **The optimal reform consists in a large cut in firing costs and the ban of fixed-term contracts.**

Post-reform dynamics are costly in the short run. Consider a 50 % cut in firing costs combined with the ban of fixed-term contracts. On impact, it leads to an increase in unemployment and decrease in open-ended employment. Unemployment remains above its initial value for at least one year before eventually reaching a lower value. Similarly, open-ended employment stays below its initial value in the short-run. **Overall, an in-depth reform may improve open-ended employment and unemployment in the long-run at the expense of an adverse transition.**

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COMING NEXT

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